DETERMINATION OF ORGANOCHLORINE AND ORGANOPHOSPHATE PESTICIDES IN THE SOIL AND WATER OF A PADDY FIELD AT SEKINCHAN, SELANGOR

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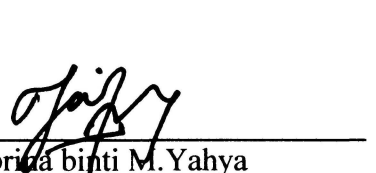

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ABSTRACT

DETERMINATION OF ORGANOCHLORINE AND ORGANOPHOSPHATE PESTICIDES IN SOIL AND WATER OF A PADDY FIELD AT SEKINCHAN, SELANGOR

The pesticides selected for this study are chlorpyrifos, diazinon, heptachlor and lindane. A random method of sampling for soil and water samples was adopted at a selected paddy field at Sekinchan, Selangor by using a soil probe for soil samples and a grab sampler for water samples. The soil and water samples were homogenized using methanol and then eluted by n-hexane in solid phase extraction. The samples were subsequently analysed by GC-ECD. From the results only chlorpyrifos was detected, namely 0.5358ng/ul in soil samples and 0.9482 ng/ul in water samples. The percent recovery in soil samples is 89.51% and 72.18% in water samples. Other selected pesticides were not detected in the soil and water samples. To determine the residual pesticides from the paddy field plot to the water canal and then to Sg.Selangor, five samples of water were collected at different locations. It is observed that chlorpyrifos disappeared gradually toward Sg.Selangor. The final concentration of chlorpyrifos in the Sg. Selangor is 0.0507ng/ul, which is under the allowable limit of 0.08ng/ul by the Interim Natural Water Quality Standard for Malaysia.